



तकनीकी पत्रिका विषय-सूची

CURRENT CONTENT

(Technical Journals)

(A Monthly Current Awareness Service from Technical Journals)

Vol.5 No.04, April, 2021

The Central Library, IBM, Nagpur is subscribing the technical journals and also receiving them on complimentary basis on various subjects like Geology, Mining, Mineral Economics etc. These Technical Journals make up an important collection of latest scientific information. The library is rendering Reference Service to its users from these technical Journals (Article Indexing is one of them). Central Library, IBM provides Current Content Service from these technical journals in the name of "GEM" since 2006 on half yearly basis in print form. To expand this service to the IBM Offices all over India i.e. H.Q., Zonal & Regional Offices and to take a call of time, the Controller General, IBM desired to make this service online on monthly basis. The library staff made efforts to make it successful. This is the 4th issue of Volume-5 for this service named "तकनीकी पत्रिका विषय - सूची" (Current Content- A Monthly Current Awareness Service from Technical Journals) Vol.5 No.04, April 2021.

It will be highly appreciated if the valuable feedback is reciprocated. If some article as per content list is found to be of use by the reader the same may be requested and the library will send the scanned copy of the article to the interested reader.

Mrs R S Wakode
Assistant Library & Information Officer
library@ibm.gov.in
0712-2562847
Ext. 1210 , 1206

I N D E X

<u>S.No</u>	<u>Title</u>	<u>Page No</u>
1)	Down to Earth	3
2)	Economic & Political Weekly	4-11
3)	Iron & Steel Review	12-13
4)	Journal of the Geological Society of India	14-15
5)	Journal of Mines Metals & Fuels	16-18
6)	Minerals & Metal Review	19
7)	Mining Engineers' Journal	20

Down to Earth, Vol.29 No.21, 16-31 March 2021

Down To Earth

Founded in 1992 to arm you with knowledge critical to shaping a better world

FOUNDER EDITOR Anil Agarwal

EDITOR Sunita Narain

MANAGING EDITOR

Richard Mahapatra

ASSOCIATE EDITORS Vibha Varshney,

S S Jeevan, Snigdha Das,

Arnab Pratim Dutta (Multimedia)

CREATIVE DIRECTOR Ajit Bajaj

SUPPLEMENT EDITOR Sorit Gupta

REPORTING TEAM Ishan Kukreti, Akshit Sangomla,

Banjot Kaur, Shagun Kapil

ASSISTANT EDITORS Aditya Misra, Rajit Sengupta

SUB EDITOR Dakshini Palicha

WEB EDITORS Joyjeet Das, Rajat Ghai, Anshika Ravi,

Preetha Banerjee

DESIGN TEAM Chaitanya Chandan, Sanjit Kumar,

Shri Krishan, Vijayendra Pratap Singh, Ritika Bohra

PHOTOGRAPHER Vikas Choudhary

PHOTO LIBRARY Anil Kumar

PRODUCTION Rakesh Shrivastava, Gundhar Das

TECH SUPPORT Rajendra Rawat, Jaidev Sharma

MULTIMEDIA Sunny Gautam, Adithyan P C

INFORMATION AND RESEARCH SUPPORT

Kiran Pandey, Susan Chacko, Madhumita Paul,

Sheeja Nair, Lalit Maurya, Dayanidhi Mishra

CONSULTING EDITOR Anumita Roychowdhury

Vol 29, No 21; Total No of Pages: 60

Editorial, subscriptions and advertisements:

Society for Environmental Communications,

41, Tughlakabad Institutional Area,

New Delhi 110 062.

Phone: 91-11-40616000, 29955124,

29956110, 29956394, 29956399

Fax: 91-11-29955879.

Email: editor@downtoearth.org.in

© 2021 Society for Environmental Communications. All rights reserved throughout the world. Reproduction in any manner is prohibited. Printed and published by Richard Mahapatra on behalf of Society for Environmental Communications. Printed at International Print-o-Pac Limited, B-204, 205, Okhla Industrial Area, Phase I, New Delhi-110020, India, and published at 41, Tughlakabad Institutional Area, New Delhi 110 062.

To subscribe, sms 'dte Subscribe' to 56070

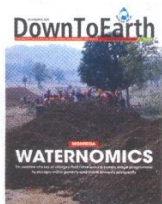
or visit www.downtoearth.org.in/subscribe

FOR ADVERTISEMENTS Jyoti Ghosh

jghosh@cseindia.org

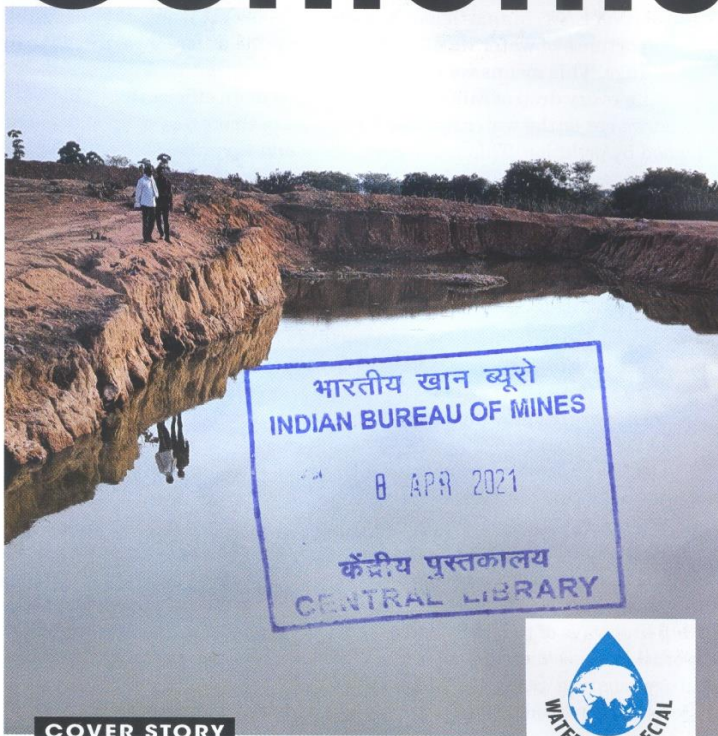
FOR SUBSCRIPTIONS

K C R Raja, raja@cseindia.org



◀ Cover design: Ajit Bajaj

Contents



COVER STORY

16

On MGNREGA's 15th anniversary, a look at how the world's largest public wage programme has helped fight water shortage and revive agrarian economy of the country

07 Digest

Temperatures soar over North India in February

12 Pandemic update

States with high number of COVID-19 cases are reporting them from new districts

50 Patently absurd

Big Pharma is zealously lobbying to kill the proposal at WTO to waive patent rights on COVID research

52 Appraisal

Promote the use of indigenous breeds to check rising number of stray cattle

56 Opinion

India needs a dedicated organisation to combat biological threats

58 Civil Lines

Is nuclear energy past the point of revival?

Down To Earth does not endorse the content of advertisements printed in the magazine. All disputes are subject to the exclusive jurisdiction of competent courts and forums in Delhi/New Delhi only.

Economic & Political WEEKLY

A SAMEEKSHA TRUST PUBLICATION

www.epw.in

INDIAN BUREAU OF MINES

8 APR 2021

केंद्रीय पुस्तकालय

CENTRAL LIBRARY

EDITORIALS

- Regimes of Dispossession
- Politics of Caste-based Schemes

FROM THE EDITOR'S DESK

- State as a Partisan Entity

ALTERNATIVE STANDPOINT

- Trust and the Responsibility of Scientists to the Public

COMMENTARY

- The Force Multipliers of Disasters in Uttarakhand
- National Education Policy 2020: Realigning the *Bhadralok*
- Anti-defection Law: Towards a Paradigm Shift?

BOOK REVIEWS

- *The Billionaire Raj: A Journey through India's New Gilded Age*
- *Socio-economic Surveys of Three Villages in Tripura: A Study of Agrarian Relations*

PERSPECTIVES

- Modern Monetary Theory, Deglobalisation and the Dollar

SPECIAL ARTICLES

- The Making of Ambedkarite Public Culture: Spatiality and Expressions of Dalits' Conscientising Space in Mumbai
- Dynamics of Caste and Landlessness: A Missing Perspective in Urban Development

NOTES

- Protection for Medical Professionals: Has India Done Enough?

CURRENT STATISTICS

POSTSCRIPT

Uttarakhand Disasters

The absence of necessary monitoring and early warning systems, and the lack of any accountability or ability to learn lessons from disasters act as force multipliers during such disasters. [page 13](#)

Protecting Medical Personnel

The causes of violence against medical personnel are highlighted, even as the Indian legislation on the subject is deficient and in urgent need of amendments. [page 54](#)

Modern Monetary Theory

The linkages of the international monetary system with shifts in global imbalances are discussed, as modern monetary theory rises in the wake of the global financial crisis and COVID-19. [page 31](#)

Ambedkarite Public Culture

Mumbai's Ambedkarite public culture and the spatial distribution of Dalits and their community associations, which prepared the ground for the movement for Dalit liberation, are analysed. [page 39](#)

An Unequal Education

The people-oriented vision of education as empowerment is lost in a National Education Policy, 2020 that seeks to build skills for the global market, while strengthening traditional inequalities. [page 17](#)

Economic & Political Weekly, Vol .56 No.10, March 6 2021

Regimes of Dispossession

- 7 Mass privatisation and monetisation of public assets will push the country into yet another crisis.

Politics of Caste-based Schemes

- 8 Governmentalising schemes in favour of a privileged caste defeats the principle of justice.

Trust and the Responsibility of Scientists to the Public

- 10 The history of science is evidence to show that scientific knowledge is as much part of cultural narratives, and building trust in science needs to recognise this. — *Sundar Sarukkai*

The Force Multipliers of Disasters in Uttarakhand

- 13 Major human interventions in Uttarakhand like hydropower projects and highways implemented without an informed or democratic decision-making process act as force multipliers during such disasters. — *Himanshu Thakkar*

National Education Policy 2020: Realigning the Bhadrakol

- 17 The National Education Policy, 2020 seeks to build skills for traditional vocations and for the global market, but with a vision that deepens the inequalities of caste, class and gender. — *Yemuna Sunny*

Anti-defection Law: Towards a Paradigm Shift?

- 21 The ubiquitous relationship between the anti-defection jurisprudence and the tenets of inner-party democracy needs to be understood, especially against the backdrop of recent political events. — *Shameek Sen*

Modern Monetary Theory, Deglobalisation and the Dollar

- 31 The article explores the interconnections between the rise of modern monetary theory, deglobalisation and the international monetary system. — *Alok Sheel*

The Making of Ambedkarite Public Culture

- 39 Since the Dalits' ideas about self and consciousness were largely shaped by their everyday experiences, B R Ambedkar thoughtfully evolved the Dalits' public culture towards conscientising mental and physical space. — *Kishor Gaikwad*

Dynamics of Caste and Landlessness

- 46 The effects of land acquisition processes and poor urban planning on Dalits and the marginalised landless population are analysed. — *Ajay Kumar Gautam, Bhujang Sambhaji Waghmare*

Protection for Medical Professionals: Has India Done Enough?

- 54 The causes of the antagonism between patients and doctors leading to violence against medical professionals are highlighted, and the efficiency of the legislations enacted for the protection of medicare professionals in India is examined. — *Sakshat Bansal, Gayatri Puthran*

Postscript

- 63 *Kalpajyoti Bhuyan* on *Paatal Lok*'s ruthless deconstruction of contemporary India; *Aditi Deo* on the 20th-century woman musician in khayal; *Asrarul Haque Jeelani* on the stigmatisation of disease and our culture of profanity; and Last Lines by *Ponnappa*.

EDITORIALS

- Regimes of Dispossession 7
Politics of Caste-based Schemes 8

FROM THE EDITOR'S DESK

- State as a Partisan Entity 9

FROM 50 YEARS AGO

- 9

ALTERNATIVE STANDPOINT

- Trust and the Responsibility of Scientists to the Public
— *Sundar Sarukkai* 10

COMMENTARY

- The Force Multipliers of Disasters in Uttarakhand
— *Himanshu Thakkar* 13
National Education Policy 2020:
Realigning the Bhadrakol
— *Yemuna Sunny* 17
Anti-defection Law: Towards a Paradigm Shift?
— *Shameek Sen* 21

BOOK REVIEWS

- The Billionaire Raj: A Journey through India's New Gilded Age*—Understanding India's Gilded Age: India's Billionaires or Billionaires' India?
— *Aejaz Ahmad Wani* 25
Socio-economic Surveys of Three Villages in Tripura: A Study of Agrarian Relations—Agrarian Transformation and Quality of Life in Highlands of Tripura: A Chronicle of Untold Stories
— *Ishita Mukhopadhyay* 28

PERSPECTIVES

- Modern Monetary Theory, Deglobalisation and the Dollar
— *Alok Sheel* 31

SPECIAL ARTICLES

- The Making of Ambedkarite Public Culture: Spatiality and Expressions of Dalits' Conscientising Space in Mumbai, circa 1920s–1940s
— *Kishor Gaikwad* 39
Dynamics of Caste and Landlessness: A Missing Perspective in Urban Development
— *Ajay Kumar Gautam, Bhujang Sambhaji Waghmare* 46

NOTES

- Protection for Medical Professionals: Has India Done Enough?
— *Sakshat Bansal, Gayatri Puthran* 54

CURRENT STATISTICS

- 61

POSTSCRIPT

- Paatal Lok*: Deconstruction of a Nation through Subaltern Voices—*Kalpajyoti Bhuyan* (63),
The Khayal Gharana and the 20th-century Woman Musician—*Aditi Deo* (64),
Disease, Stigma and a Culture of Profanity
— *Asrarul Haque Jeelani* (66)

LETTERS

- 4

Economic & Political WEEKLY

A SAMEEKSHA TRUST PUBLICATION

www.epw.in

INDIAN BUREAU OF MINES

8 APR 2021

केंद्रीय पुस्तकालय
CENTRAL LIBRARY

EDITORIALS

- Politics of Regulating Digital Media
- The Pitfalls of Quota for Locals

FROM THE EDITOR'S DESK

- Corporates and Their Systemic 'Innocence'

HT PAREKH FINANCE COLUMN

- The Battle of GameStop

COMMENTARY

- A Crucible of Tamil Nadu's Sociopolitical Ethos: 2021 Assembly Elections
- Livelihood Vulnerabilities of Tribals during COVID-19: Challenges and Policy Measures
- Managing Groundwater-Energy Nexus in India: What Will Solar Pumps Achieve?

BOOK REVIEWS

- *Supreme Court of India: The Beginnings*
- *Early Indians: The Story of Our Ancestors and Where We Came From*

PERSPECTIVES

- The Infosys Prize: A Proxy Indicator of the Vitality of India's Knowledge Landscape
- Farm Laws: Conflating Deregulation with Modernisation

SPECIAL ARTICLES

- Growth Transitions in India: Myth and Reality
- Beyond Personal Laws: Creating a 'Time and Space' for the Uniform Civil Code
- Dalit Women and Colonial Christianity: First Telugu Bible Women as Teachers of Wisdom

CURRENT STATISTICS

Whither Dravidian Ethos?

The challenges for the two Dravidian parties in articulating a political vision rooted in Dravidian-Tamil commonsense appealing to a transforming economy and society are examined. **page 14**

Modernising MSP

The solution to the minimum support price conundrum is in its extension to ensure a decentralised procurement system in a diverse range of crops, without compromising the farmers' interests. **page 37**

India's Knowledge Landscape

The institutions of education, current research, and social profiles of Infosys Prize awardees as proxy indicators reveal the current state of knowledge in public institutions and the biases therein. **page 31**

The Real Trajectory of Growth

An assessment of the trajectory of growth in India during 1950–2020 finds that while hurdles to growth do exist, they cannot be overcome by shifting to a more liberal policy regime alone. **page 43**

Democracy in the Market

The novel form of collective action that resulted in the battle of GameStop is here to stay and has revealed that democracy in financial markets is just a myth. **page 10**

Economic & Political Weekly, Vol .56 No.11, March 13 2021

Politics of Regulating Digital Media

- 7 While ensuring the accountability of big tech, the IT rules must not stifle free speech.

The Pitfalls of Quota for Locals

- 8 The employment quota for locals is politically repugnant and also vexing for the economy.

The Battle of GameStop

- 10 What the battle of GameStop has brought into light is that democracy in financial markets is just a myth: whoever controls the valves controls the flow.
—Ahmet Öncü, T Sabri Öncü

A Crucible of Tamil Nadu's Sociopolitical Ethos

- 14 Based on shifts in Tamil Nadu's economy and polity, the prospects for emergence of political alternatives to the two dominant Dravidian parties are examined in the context of the upcoming assembly elections.
—M Vijayabaskar, Vignesh Karthik K R

Livelihood Vulnerabilities of Tribals during COVID-19

- 19 There is an urgent need to focus on food security and strong social protection mechanisms to help tribal communities to minimise the impact of the pandemic. —Minaketan Behera, Preksha Dassani

Managing Groundwater—Energy Nexus in India

- 22 Arguments in support of the "SPaRC" model as a solution for India's multiple problems in agriculture are misleading. —Meera Sahasranaman, M Dinesh Kumar, Mahendra Singh Verma, Chris J Perry, Nitin Bassi & M V K Sivamohan

The Infosys Prize

- 31 Using the Infosys Prize as a proxy indicator, this article raises some crucial questions about epistemic and structural biases that limit the scope of laureates to a set of elite institutions and knowledge systems. —Peter Ronald deSouza

Farm Laws: Conflating Deregulation with Modernisation

- 37 The possibilities for extension of the minimum support prices to ensure a decentralised procurement system in a diverse range of crops are discussed.
—M S Sriram

Growth Transitions in India: Myth and Reality

- 43 This paper addresses the proper delineation of the phases of growth in India using state-of-the-art statistical methodology and provides a theoretical explanation for that history. —Pulapre Balakrishnan, Mausumi Das & M Parameswaran

Creating a 'Time and Space' for the Uniform Civil Code

- 50 Insofar as Muslims continue to manifest personal laws as a part of their right to live as a religious minority, an abrupt transition from personal laws to the Uniform Civil Code, politically, remains inexpedient. —Zubair Ahmad Bader

Dalit Women and Colonial Christianity

- 57 Bible women played a pivotal role in the history of Dalits, gender, and missions by shaping the life and community of Dalits and spreading Christianity in Rayalaseema. —Chakali Chandra Sekhar

EDITORIALS

- Politics of Regulating Digital Media 7
The Pitfalls of Quota for Locals..... 8

FROM THE EDITOR'S DESK

- Corporates and Their Systemic 'Innocence' 9

FROM 50 YEARS AGO

HT PAREKH FINANCE COLUMN

- The Battle of GameStop
—Ahmet Öncü, T Sabri Öncü..... 10

COMMENTARY

- A Crucible of Tamil Nadu's Sociopolitical Ethos:
2021 Assembly Elections
—M Vijayabaskar, Vignesh Karthik K R..... 14
Livelihood Vulnerabilities of Tribals during
COVID-19: Challenges and Policy Measures
—Minaketan Behera, Preksha Dassani 19
Managing Groundwater—Energy Nexus in India:
What Will Solar Pumps Achieve?
—Meera Sahasranaman, M Dinesh Kumar,
Mahendra Singh Verma, Chris J Perry,
Nitin Bassi, M V K Sivamohan..... 22

BOOK REVIEWS

- Supreme Court of India: The Beginnings—
Why History Matters: Reading George Gadbois
—Upendra Baxi..... 26
Early Indians: The Story of Our Ancestors
and Where We Came From—Early India,
Goats and Brahmins
Kancha Ilaiah Shepherd..... 28

PERSPECTIVES

- The Infosys Prize: A Proxy Indicator of the
Vitality of India's Knowledge Landscape
—Peter Ronald deSouza 31
Farm Laws: Conflating Deregulation
with Modernisation
—M S Sriram 37

SPECIAL ARTICLES

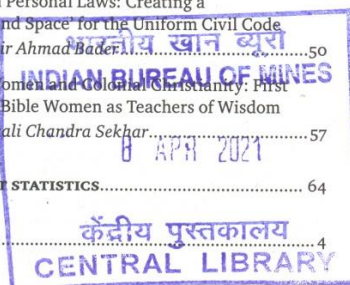
- Growth Transitions in India: Myth and Reality
—Pulapre Balakrishnan, Mausumi Das,
M Parameswaran..... 43
Beyond Personal Laws: Creating a
'Time and Space' for the Uniform Civil Code
—Zubair Ahmad Bader..... 50
Dalit Women and Colonial Christianity: First
Telugu Bible Women as Teachers of Wisdom
—Chakali Chandra Sekhar..... 57

CURRENT STATISTICS

- 64

LETTERS

- 4



Economic & Political WEEKLY

A SAMEEKSHA TRUST PUBLICATION

www.epw.in

केंद्रीय पुस्तकालय
INSTITUTIONAL BUREAU OF MINES

8 APR 2021

केंद्रीय पुस्तकालय
CENTRAL LIBRARY

EDITORIALS

- Government and Its Adaptive Ignorance
- The 'Public' within and beyond the Enterprise

FROM THE EDITOR'S DESK

- Democracy in Search of Decency

LAW & SOCIETY

- Pendency during the Pandemic

COMMENTARY

- Big Tech's 'Societies of Control'
- Cooperative or Coercive Federalism
- Social Security Code, 2020 and Rules: A Critique
- (Non)Humanising the Home in the Anthropocene: Notes from a 'Lockdown'
- Dangerous Cooking Using Unsafe Fuels

BOOK REVIEWS

- *People's Car: Industrial India and the Riddles of Populism*
- *My Son's Inheritance: A Secret History of Lynching and Blood Justice in India*

PERSPECTIVES

- Elementary Education in India

SPECIAL ARTICLES

- Gender, Class and Community in Mobilisation of Labour: Cotton Mills in Tamil Nadu, 1914–51
- Fuel Price Behaviour under Different Regimes in India since 2002
- Ambedkar, Gandhians and the Indian Village

DISCUSSION

- Understanding West Bengal Economy

CURRENT STATISTICS

POSTSCRIPT

Women Millworkers in Tamil Nadu

Though the state, capitalists, and unions tried to constrain them to traditional gender roles, women workers were not merely made by politics as they forged agency for themselves and expanded the degree of freedoms. [page 40](#)

Curbing Big Tech

Supremacist tendencies of big tech need to be challenged through state actions to break their monopolies and limit their presence. [page 12](#)

New Segregation in Education

The segmented schooling system in the context of privatisation reinforces existing stratifications and entrenches the association of students across various socio-economic strata with different school types. [page 33](#)

Federalism and Union Budget

The union government is curbing the financial independence and developmental abilities of the states by reducing the divisible pool and imposing constraints on market borrowing. [page 14](#)

Politics of Petroleum Prices

The impact of global crude oil prices and exchange rates is observed to be different across the three different political regimes from 2002 to the present. [page 49](#)

Economic & Political Weekly, Vol .56 No.12, March 20 2021

Pendency during the Pandemic

- 10 The Supreme Court finds itself facing increased pendency and demands to restart in-person hearings after measures to fight COVID-19 forced courts in India to suspend in-person hearings. — *Alok Prasanna Kumar*

Posthumanist Confinement: Big Tech's 'Societies of Control'

- 12 The idea of tech companies as an important power in the creation of "societies of control" is explored, building on which contemporary posthumanism is looked at as human existence represented and replicated as non-human entities. — *Avanti Lele*

Cooperative or Coercive Federalism: Union Budget 2021–22

- 14 Certain provisions of the Union Budget 2021–22 that have diluted the spirit of cooperative federalism in the country are looked at. — *Arvind Awasthi, Siddharth Shukla*

Social Security Code, 2020 and Rules: A Critique

- 17 The focus of the article is the Social Security Code, 2020 and the rules framed thereunder, which raise a number of issues regarding the working of the new legislation. — *Santosh Mehrotra, Kingshuk Sarkar*

(Non)Humanising the Home in the Anthropocene

- 21 The concept of home is revisited in the context of the pandemic to ask how the pandemic modifies and has an impact on the various inflections of home. — *Susan Haris*

Dangerous Cooking Using Unsafe Fuels: A Case Study of Punjab

- 24 Despite the efforts of the Indian government to make available clean fuels, the use of cow dung cakes continues unabated; people should be made aware of the adverse effects of this practice on health and the environment. — *Mandeep Kaur, Kuldip Kaur*

Disadvantages and Segregation through School Choice

- 33 The manner in which privatisation in elementary education in India changes student composition, which then creates segregation across school types, is analysed. — *Biswajit Kar, Sachidanand Sinha*

Cotton Mills in Tamil Nadu, 1914–51

- 40 The integration of women workers into cotton mills in Tamil Nadu is surveyed in this paper to trace the construction of notions of gender, community, and class among millworkers. — *M V Shobhana Warriar*

Fuel Price Behaviour under Different Regimes in India since 2002

- 49 The variation of prices of petrol and diesel since June 2002 in the metro cities in India and the impacts of the international crude oil price and exchange rates on such prices in these cities are examined. — *Utpal Kumar De, Manoranjan Pal & Soumyendra Kishore*

Ambedkar, Gandhians and the Indian Village

- 59 The paper attempts to understand the two competing models of postcolonial modernity on the issue of the village, that is, one representing a Gandhian perspective and the other a liberal Western perspective led by B R Ambedkar. — *Paramjit S Judge*

Understanding West Bengal Economy: Nothing Aporetic

- 66 A response to Prasenjit Bose's "State of the West Bengal Economy: Beyond Aporetic Official Claims" (26 January 2019) — *Bureau of Applied Economics & Statistics*

Postscript

- 71 *Madhumati Dutta* on an unexpected encounter with a bullfight in a Spanish village; *Hari Padmanabhan* on advancements created by engaging in scientific research that are a reflection of human nature; *Taniya Roy* on the invocation of "Corona Devi" during COVID-19; and Last Lines by *Ponnappa*.

EDITORIALS

- Government and Its Adaptive Ignorance 7
The 'Public' within and beyond the Enterprise 8

FROM THE EDITOR'S DESK

- Democracy in Search of Decency 9

FROM 50 YEARS AGO

LAW & SOCIETY

- Pendency during the Pandemic
— *Alok Prasanna Kumar* 10

COMMENTARY

- Posthumanist Confinement: Big Tech's
'Societies of Control'—*Avanti Lele* 12
Cooperative or Coercive Federalism:
Union Budget 2021–22
— *Arvind Awasthi, Siddharth Shukla* 14
Social Security Code, 2020 and Rules: A Critique
— *Santosh Mehrotra, Kingshuk Sarkar* 17
(Non)Humanising the Home in the
Anthropocene: Notes from a 'Lockdown'
— *Susan Haris* 21
Dangerous Cooking Using Unsafe Fuels:
A Case Study of Punjab
— *Mandeep Kaur, Kuldip Kaur* 24

BOOK REVIEWS

- People's Car: Industrial India and the Riddles
of Populism*—The Singur Agitation and the
Contradictions of Agrarian Populism
— *Indraneel Dasgupta* 29
*My Son's Inheritance: A Secret History of Lynching
and Blood Justice in India*—Stories of Endemic
Violence—*Ujithra Ponniah* 31

PERSPECTIVES

- Disadvantages and Segregation through School
Choice: Elementary Education in India
— *Biswajit Kar, Sachidanand Sinha* 33

SPECIAL ARTICLES

- Gender, Class and Community in Mobilisation of
Labour: Cotton Mills in Tamil Nadu, 1914–51
— *M V Shobhana Warriar* 40
Fuel Price Behaviour under Different Regimes
in India since 2002—*Utpal Kumar De,
Manoranjan Pal, Soumyendra Kishore* 49
Ambedkar, Gandhians and the Indian Village
— *Paramjit S Judge* 59

DISCUSSION

- Understanding West Bengal Economy:
Nothing Aporetic
— *Bureau of Applied Economics & Statistics* 66

CURRENT AFFAIRS

- INDIAN BUREAU OF MINES 68

POSTSCRIPT

- On the Horns of a Dilemma: Observing a Spanish
Bullfight—*Madhumati Dutta* (71),
Reflections on Science and the Human Endeavour
— *Hari Padmanabhan* (72),
Crisis and the Pandemic Cycle—*Taniya Roy* (73),
Last Lines (74)

- LETTERS 74

Economic & Political WEEKLY

A SAMEEKSHA TRUST PUBLICATION

www.epw.in

8 APR 2021

केंद्रीय पुस्तकालय
CENTRAL LIBRARY

EDITORIALS

- Democratic Government by One Person
- Roll Out a Universal Public Distribution System

FROM THE EDITOR'S DESK

- Freedom to Be Politically Vigilant

COMMENTARY

- Left Democratic Front Victory in Kerala's Local Body Elections
- Bad Bank, Bad Loans and the Indian Banking Mess
- Pandemic as Population Check? The Dangerous Fallacies of Populationism
- Performance of Women and Child Development Sector in India
- Dwijendra Narayan Jha (1940–2021)

BOOK REVIEWS

- *A Political History of Literature: Vidyapati and the Fifteenth Century*
- *Healthcare for India's Poor: The Health Insurance Way*

PERSPECTIVES

- Caste and COVID-19: Notes on Sanitation in a Pandemic
- Construction of Calamities in the Uttarakhand Himalaya

SPECIAL ARTICLES

- Agrarian Crisis and Agricultural Labourer Suicides in Punjab
- Learning and Language: English as Medium of Instruction in Low-cost Private Schools

CURRENT STATISTICS

Squeeze on Agricultural Labourers

With the diminishing employment opportunities and farm wage rates, the agrarian crisis in Punjab has pushed the agricultural labourers towards low earnings and debt traps, leading them towards death by suicide. [page 49](#)

Sanitation Work and the Pandemic

The current crisis provides conditions that could establish a discourse and practice of sanitation and a culture of public health in India, grounded in a paradigm beyond that of caste. [page 35](#)

Neo-Malthusianism Redux

The belief among sections of the elite that a much-needed population check is "naturally" occurring through the spread of the disease, helps erase government failure, and treats urban slums and poor clusters as dispensable. [page 17](#)

Ascendant LDF in Kerala

The main factors that resulted in the overwhelming victory of the Left Democratic Front in the local body elections in terms of their significance for assembly elections are analysed. [page 10](#)

Dwijendra Narayan Jha (1940–2021)

Tributes to the indomitable historian committed to scientific historiography and busting communal myths [page 28](#)

Democratic Government by One Person

- 7 The recent bill passed in Parliament deems the elected government of Delhi irrelevant.

Roll Out a Universal Public Distribution System

- 8 Linking beneficiary ratio to the last census numbers excludes around 10 crore eligible claimants.

Left Democratic Front Victory in Kerala's Local Body Elections

- 10 A close reading of the results of the local body elections of 2020 in Kerala shows that people are more inclined to the forces that are sensitive to their real problems and needs in everyday life. — *Dimpi V Divakaran*

Bad Bank, Bad Loans and the Indian Banking Mess

- 13 The reasons for the large non-performing assets of the Indian banks, particularly public sector banks, and the various steps taken by the government and the Reserve Bank of India to tackle the issue of bad debts are looked at. — *Nupur Pavan Bang, Vivek Kaul*

Pandemic as Population Check?

- 17 As India undergoes massive societal transformations due to the pandemic, the dangers of support for coercive population control policies in the garb of economic recovery are examined. — *Aprajita Sarcar, Mohan Rao*

Performance of Women and Child Development Sector in India

- 22 A sector-level evaluation of schemes for women and child development in India shows that a synergy between various ministries working for child and women protection is needed for their wholesome development and empowerment. — *Raja Krishna Murthy Morla*

Dwijendra Narayan Jha (1940–2021)

- 28 Busting communal myths and approaching history with a scientific rigour were the hallmarks of D N Jha's life and work. — *Suchandra Ghosh*

Caste and COVID-19: Notes on Sanitation in a Pandemic

- 35 The article looks at on-ground shifts in patterns of how the state and general public are treating sanitation workers during the COVID-19 pandemic. — *Kanthi Swaroop, Joel Lee*

Construction of Calamities in the Uttarakhand Himalaya

- 43 Hydropower projects in Uttarakhand have increased the vulnerability of the mountain villagers towards disasters, while giving these an unsettling everydayness and a spiralling effect. — *Shruti Jain*

Agrarian Crisis and Agricultural Labourer Suicides in Punjab

- 49 Punjab's agrarian crisis has pushed the agricultural labourers towards low earnings and debt traps, which have led them towards death by suicide. The financial compensation, debt waiver, provision of healthcare and education of victim families are the main policy measures for addressing the act of suicide by agricultural labourers. — *Sukhpal Singh, Manjeet Kaur & H S Kingra*

Language in Low-cost Private Schools

- 57 In low-cost private schools in India, English as a medium of instruction attracts children of poorly educated parents with a low-income background. A primary survey in Delhi and the National Capital Region finds that mediating primary-level education through an unfamiliar language poses language barriers and adversely affects the learning outcome. — *Tanuka Endow*

EDITORIALS

- Democratic Government by One Person 7
Roll Out a Universal Public Distribution System..... 8

FROM THE EDITOR'S DESK

- Freedom to Be Politically Vigilant..... 9

FROM 50 YEARS AGO

COMMENTARY

- Left Democratic Front Victory in Kerala's Local Body Elections
— *Dimpi V Divakaran* 10

Bad Bank, Bad Loans and the Indian Banking Mess
— *Nupur Pavan Bang, Vivek Kaul* 13

Pandemic as Population Check?
The Dangerous Fallacies of Populationism
— *Aprajita Sarcar, Mohan Rao* 17

Performance of Women and Child Development Sector in India: A Critical Evaluation
— *Raja Krishna Murthy Morla* 22

To Strive, to See and Not to Yield:
An Indomitable Historian,
Dwijendra Narayan Jha (1940–2021)
— *Suchandra Ghosh* 28

BOOK REVIEWS

- A Political History of Literature: Vidyapati and the Fifteenth Century*—Vidyapati's Mithila: Literature and a New Universalism in Sultanate India
— *Abir Bazaz* 31
Healthcare for India's Poor: The Health Insurance Way—From RSBY to PM-JAY: Crutches for Health Insurance Business in the Name of the Poor
— *Navi Duggal* 33

PERSPECTIVES

- Caste and COVID-19:
Notes on Sanitation in a Pandemic
— *Kanthi Swaroop, Joel Lee* 35

Construction of Calamities in the Uttarakhand Himalaya
— *Shruti Jain* 43

SPECIAL ARTICLES

- Agrarian Crisis and Agricultural Labourer Suicides in Punjab
— *Sukhpal Singh, Manjeet Kaur, H S Kingra* 49

Learning and Language: English as Medium of Instruction in Low-cost Private Schools
— *Tanuka Endow* 57

CURRENT STATISTICS.....

LETTERS

Iron & Steel Review, Vol.64 No.10, March 2021

Features

Editor & Publisher:
Santosh Mahanti

Directors:
Sabita Mahanti
Abhishek Mahanti

Director & Content Strategist:
Kritika Mahanti

Editorial:
Anindita Banerjee
Megha Ghosh

Marketing:
Shyamalendu Banerjee
Angan Chatterjee
Sanjana Tiwari

Design & Layout:
Dipak Adhikari
Sambaran Karmakar

Editorial & Corporate Office:
Merlin Links, Block 5E/5F, 5th Floor
166B, S. P. Mukherjee Road
Kolkata - 700 026
Phone: 91-6292241782/6292241783/
033-2463 8088
Fax: 91-033-2465-3790
E-mail: contact@isrinfomedia.in
Website: www.isrinfomedia.com

Registered Office:
10, Chowringhee Road
Kolkata - 700 013

Subscription Rate

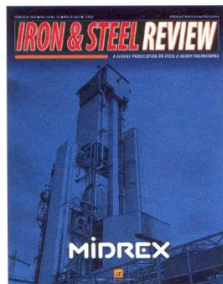
Domestic
₹ 11,000 (Yearly)
₹ 1,000 (Single Copy)
Overseas
\$ 1200 (Yearly)
€ 1200 (Yearly)

● 5 % GST on advertisement as applicable

Owned & Printed by Santosh Mahanti
at M/s. Gupta Quick Printers
4D/28, Dharmatalla Road
Kolkata - 700 039
and published by him from
10, Chowringhee Road
Kolkata - 700 013, India.

*Reproduction of matter published
here, in whole or in parts, is
prohibited without written
permission from the publisher.*

*The publisher and printer do not
accept any responsibility for
statements, data and opinions
expressed by the author.*



Cover Courtesy: Midrex

Special Feature

16

The Sponge Iron Industry of
India – Challenges & Outlook

Interview

18



A. Krishna Kumar
President & Head
Specialties, Hindalco
Industries Ltd.

“Hindalco is the only
company from India to be
recognised as an Industry
Leader this year”

National Trends

22

SAIL-BSP achieves the
highest-ever daily hot metal
output of 18,540 tonnes

Global Trends

34

SMS group bags a wire rod
mill upgrade order from
Kardemir

Focus

52

Budget 2021-22 – A Bonanza
for the Steel Industry

Industry 4.0

64

Application of Machine
Learning Models in Oxygen
Steelmaking Processes

Company News

72

KOCKS Supplied the First
3-Roll Wire Rod Block to India
in 1961

Steel Market

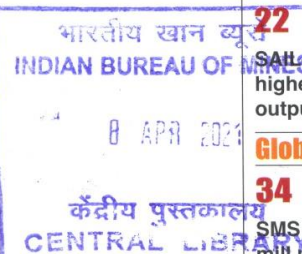
78

Iron & Steel Summary
for January 2021

Market & Product

86

The New Version of ABB
Ability™ Performance
Optimization for Hoists



Contd...

Iron & Steel Review, Vol.64 No.10, March 2021

Features



Advertisers' Index

Steel Technology

88

Inspection of Coke Oven Batteries

Refractory

98

Challenges in Stainless Steelmaking with Dolomite Refractories

Webinar & Seminar

106

Hiju Steel Hosts a Webinar on "LGSF/CFS Construction Technology Combining Bamboo Panels for Mass Housing in India"

Statistics

109

World Crude Steel Production – January 2021

Indian Steel Market & Prices – January 2021

A		
Aman Machine Tools Pvt. Ltd.	12	Megatherm
Atomat Group	35	Minex Metallurgical Co. Ltd.
Ashling Innovation LLP	53	Maxis Motion Controls Pvt. Ltd.
Arcum Engineering (P) Limited	54-55	Maithan Ceramic Limited
ARB Bearing Ltd.	59	METEX
C		
Creative Carbon Pvt. Ltd.	63	N
D		NMDC Limited
Dalmia-OCIL Refractories Limited	Second Cover	O
Danieli & C Spa	37, 38-39	Orind Special Refractories (P) Ltd.
E		P
Electrotherm (India) Limited	9	Paltech Cooling Towers & Equipments Ltd.
ERNST Industrieanlagen GmbH	41	R
Eastern Equipment & Engineers P. Ltd.	31	RINL
Ecomaister Beads India Pvt. Ltd.	57	R. Singh & Associates (P) Ltd.
G		Refratechnik Steel
Gita Refractories (P) Ltd.	15	Ranchi Refractories (India) Pvt. Ltd.
Greenifyi	107	S
H		SMS group
H & K Rolling Mill Engineers Pvt. Ltd.	13	Shyam Steel Industries Limited
Hi-Tech Chemicals (P) Ltd.	91	Steefo Industries Private Limited
I		Shandong Mingren Heavy Machinery Co. Ltd.
Indiana Machine Tools	10	Sardad India
IMS Maco Services Pvt. Ltd.	14	Sarvan Carbochem LLP
ifm electronic India Private Limited	79	SGS Technologies
J		T
Jindal Steel & Power Limited	23	TH Company
K		Transformers & Rectifiers (India) Ltd.
KOCKS	4-5	TVQ Coke Oven Consultants (P) Ltd.
KELK	29	TRL Krosaki Refractories Limited
KME Special Products GmbH	47	V
Khemka Refractories Private Limited	85	Vezzani
M		VELCO GmbH
Mipalloy Nomura Plating Company LLP	Back Cover	

Journal of the Geological Society of India, Vol.97 No.4, April 2021

of THE GEOLOGICAL SOCIETY OF INDIA

केंद्रीय पुस्तकालय

CENTRAL LIBRARY

(Abstracted/Indexed in AGI's Bibliography and Index of Geology, Chemical Abstracts, Current Contents, GEOBASE, GEORef, Mineralogical Abstracts, GeoArchive, Thomson ISI database (SCIE, CC/PC & ES))

Vol. 97	APRIL 2021	No. 4
---------	------------	-------

CONTENTS

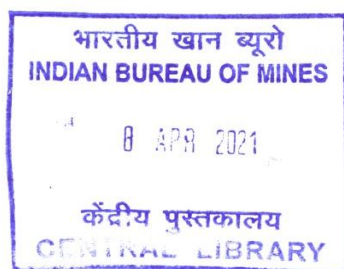
New Frontiers in Analytical Techniques – Opportunities and Challenges in Geochemical Research.	
V. BALARAM	331

RESEARCH ARTICLES

A Perspective on Rishiganga-Dhauliganga Flash Flood in the Nanda Devi Biosphere Reserve, Garhwal Himalaya, India	
KALACHAND SAIN, AMIT KUMAR, MANISH MEHTA, AKSHAYA VERMA, SAMEER K. TIWARI, PURUSHOTTAM K. GARG, VINIT KUMAR, SANTOSH K. RAI, PRADEEP SRIVASTAVA and Koushik Sen	335
The Neogene Siwalik Succession of the Arunachal Himalaya: A Revised Lithostratigraphic Classification and its Implications for the Regional Paleogeography.	
ARIJIT DEBNATH, SUCHANA TARAL, SUBHRA MULLICK and TAPAN CHAKRABORTY	339
Neoarchaeic Felsic Volcanic Rocks in Tracing Evolution of Arcs: An Insight from Geochemical Data of the Gadag Schist Belt, Western Dharwar Craton	
V.S. HEDGE, FERNANDO CORFU, HARTWIG E. FRIMMEL, R.H. SAWKAR and M.M. KORKOPPA	351
Pore Characteristics of Gondwana Shale of Eastern India.	
PIYUSH SARKAR, RANJANA GHOSH, KUMAR HEMANT SINGH and TRILOK NATH SINGH	363
Impact Assessment of Artificial Recharge Structures on Kakatiya University Campus, Warangal Urban District, Telangana.	
R. MALLIKARJUNA REDDY, A.G.S. REDDY and T. NAVEEN	375
Geomorphic Analysis, Morphometric-based Prioritization and Tectonic Implications in Chite Lui River, Northeast India.	
BINOY KUMAR BARMAN, CHEGONDI UDAYA BHASKARA RAO, K. SRINIVASA RAO, ADESH PATEL, KAMLESH KUSHWAHA and SUDHIR KUMAR SINGH	385
Watershed Prioritization Based on Morphometric Parameters and PCA Technique: A Case Study of Deonar River Sub Basin, Sidhi Area, Madhya Pradesh, India.	
RABINDRA N. TIWARI and VIKASH K. KUSHWAHA	396
Field and Simulation Studies for Mechanised Depillaring below Incompetent Geological Formations of an Indian Coal Mine.	
ARUN KUMAR SINGH, ASHOK KUMAR, DHEERAJ KUMAR, RAJENDRA SINGH, SAHENDRA RAM, RAKESH KUMAR and AMIT KUMAR SINGH	405

Journal of the Geological Society of India, Vol.97 No.4, April 2021

techniques in a Semi-arid Region of Rajasthan, India. JAI KUMAR, BROTI BISWAS and SUSAN VERGESE	416
Kinematic and Statistical Analysis of Fold Related Fractures in the Northeast of Kopet Dagh Folded Belt, Northeast Iran. NASRIN KIANIZADEHA, BEHNAM RAHIMIA, GHOLAM REZA LASHKARIPOURA and VAHID FAKOOR	428
NEWS AND NOTES	
Summary Report, Earth Science Week, Maharashtra Vruksha Samvardhini. AJIT VARTAK	442
Geochemical Heterogeneity of Indian Ocean MOR Mantle. ABHISHEK SAHA	443
OBITUARY	
Prof. Indra Bir Singh (1943-2021). PRADEEP SRIVASTAVA, DHIRUV SEN SINGH and UMAKANT SHUKLA	444



Cover

(Clockwise) (a) View of the triggering site of the ice-rock avalanche, (b) lake formation at the confluence of Raunthi stream with Rishiganga River, (c) damaged site of Rishiganga HEP, and (d) washed out bridge near Raini village. (for details see pp.335-338)

ADDRESS OF EDITOR

All papers intended for publication and also related correspondence should be addressed to:

B. Mahabaleswar, Editor, Geological Society of India, No.30 & 31, 1st Main, 3rd Cross,
Byrappa Garden, Kathriguppe, BSK 3rd Stage, Bengaluru - 560 085.

Email: editorjournalgsi@gmail.com; jgsi.journal@gmail.com; **Mobile:** 09341264052;

Telephone: 080-2672 3943; **Website:** <http://www.geosocindia.org>.

Journal of Mines, Metals & Fuels, Vol.68 No's 11 & 12, November-December 2020

JOURNAL OF MINES, METALS & FUELS
THE LONGEST SERVING TECHNICAL JOURNAL OF THE INDUSTRY, RESEARCH, ACADEMIA AND
BUSINESS OF ORES, MINERALS, FUELS, RENEWABLES AND AGGREGATES
(II ISSN 0022-2755)
(FOUNDED BY LATE P.K. MENON)

Managing Editor:
Pradip Kumar Chanda

Immediate Past Editor: Late Prof. A.K. Ghose, IIT Kharagpur
Honorary Editor in Chief:
Prof. Dr. Jayanta Bhattacharya, IIT Kharagpur, India

International Editorial Advisory Board

Dr. Abdolhadi Ghazvini
Fellow, ISRM, Tehran, Iran
Prof. Dr. Antonio V. Nieto, School of Mining
Engineering, University of Witwatersrand,
South Africa
Prof. Dr. Arif Jamal, Mining Engg., IIT (BHU),
Varanasi, India
Prof. Dr. Ashis Bhattacharjee, Mining Engineering,
IIT, Kharagpur, India
Prof. Barun Kumar Nandi, Fuel & Mineral Engg.,
IIT/ISM, Dhanbad, India
Prof. Dr. Biswajit Samanta, Mining Engineering, IIT,
Kharagpur, India
Prof. Dr. B S Sastry, Mining Engineering, IIT
Kharagpur India
Prof. Dr. Edy Tonnizam Mohamad
Geotopik, University Teknologi Malaysia
Dr. Keka Ojha, Petroleum Engg., IIT/ISM, Dhanbad,
India
Dr. Manis Kumar Jha, CSIR-National Metallurgical
Laboratory, Jamshedpur, India
Prof. Michael Tuck, Mining Engineering, Federation
University, Australia
Prof. Dr. Mitchel W. Hitch, Mining Engineering,
Tallinn University of Technology, Estonia
Prof. Dr. Mohan Yellishetty, Resources Engineering,
Monash University, Australia
Niraj Ranjan Sharma, Metals & Mining Industry,
IBM Singapore
Dr. Prabhat Kumar Mandal, CSIR-CIMFR, Dhanbad,
India
Dr. Pramod Paliwal, Fellow-CIM, Professor & Dean
at School of Petroleum Management, Pandit
Deendayal Petroleum University (PDPU), India.
Prof. Dr. Ram Bhattacharya, Mining Engg., IIT/ISM,
Dhanbad, India
Dr. R.M. Bhatawdekar, Training & Courses, Geotroik,
Universiti Teklogi, Malasiya
Dr. Robert Hall, HOD, Mining Engineering &
Management, South Dakota School of Mines
Dr. S.B. Srivastav, Geophysics, IIT/ISM, Dhanbad,
India
Sarma Pisupati, Professor of Energy and Mineral
Engineering, Chemical Engineering and Director,
Center for Critical Minerals, State College-DuBois
Area, USA
Prof. Subodh Kumar Maiti, Environmental Science &
Engineering, IIT(ISM), Dhanbad, India
Prof. Supraksh Gupta, Mining Engg., IIT (BHU),
Varanasi, India
Dr. Tanmoy Maity, Power Electronics & Drives, IIT/
ISM, Dhanbad, India
Dr. Vasyi Lozynski, Dnipro University of
Technology, Ukraine
Dr. Victoria R. Nalule, Petroleum Engg. University of
Dundee, UK

68
YEARS IN
PUBLICATION
1953-2020

Vol.68, Nos.11&12, NOVEMBER-DECEMBER 2020

THE CONTENTS

- Discussion-Opinion-Editorial:* Why mining engineering education
should create a place for its students in the schemes of renewable
energy generation 374
- Industry Directions:* Mining the periodic table 348
- Mathematical modelling of radon (^{222}Rn) exposure of underground
mine workers: a comprehensive review
*by Patitapaban Sahu, Imran Athar Beg and
Durga Charan Panigrahi* 349
- Influence of blast size on the relation between peak particle velocity and
scaled distance in open pit limestone mines – a case study
by Punit Paurush, Piyush Rai and Suresh Kumar Sharma 354
- Design of illumination system in an opencast coal mine – a case study
by Kapil Kumar Sharma and Debi Prasad Tripathy 362
- Sustainable development of groundwater in and around opencast
limestone mine area by rainwater harvesting – a case study
by Naresh Kr. Katariya, and Amit Biswas 372

Editorial & Business Offices:
Moon Plaza, 2A, 2nd Floor
62 Lenin Sarani, Taltala
Kolkata 700 013

Mobiles:
+91 9239384829 /
+91 8479919829
+91 9903463829 (Office)
E-mail: bnjournals@gmail.com
pradipchanda@yahoo.co.uk
web: www.jmmf.info

Registered Office:
Books & Journals Pvt. Ltd.
62 Lenin Sarani,
Kolkata 700 013

Enlist as a subscriber to:

**INDIAN JOURNAL OF
POWER & RIVER VALLEY DEVELOPMENT**

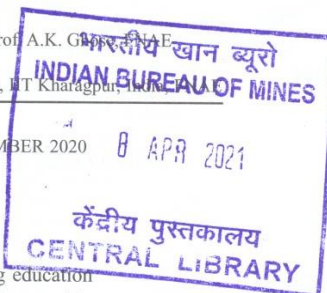
AN INTERNATIONAL JOURNAL OF ENERGY,
POWER AND DEVELOPMENT

Annual Subscription
(Effective January 2020)
Rs.3000 (India); €280.00 or \$400.00 (Foreign)

For advertisement rates

Write to:

The Manager
BOOKS & JOURNALS PRIVATE LTD.
Moon Plaza, (2A, 2nd Floor)
62 Lenin Sarani, Kolkata 700 013
E-mail: bnjournals@gmail.com



JOURNAL OF MINES, METALS & FUELS

THE LONGEST SERVING TECHNICAL JOURNAL OF THE INDUSTRY, RESEARCH, ACADEMIA AND
BUSINESS OF ORES, MINERALS, FUELS, RENEWABLES AND AGGREGATES

(II ISSN 0022-2755)

(FOUNDED BY LATE P.K. MENON)

Managing Editor:
Pradip Kumar Chanda

Immediate Past Editor: Late Prof. Anil Ghosh, IIT Kharagpur, India
Honorary Editor in Chief:
Prof. Dr. Jayanta Bhattacharya, IIT Kharagpur, India, FNAE

International Editorial Advisory Board

Dr. Abdolhadi Ghazvianin
Fellow, ISRM, Tehran, Iran
Prof. Dr. Antonio V. Nieto, School of Mining
Engineering, University of Witwatersrand,
South Africa
Prof. Dr. Arif Jamal, Mining Engg., IIT (BHU),
Varanasi, India
Prof. Dr. Ashis Bhattacharjee, Mining Engineering,
IIT, Kharagpur, India
Prof. Barun Kumar Nandi, Fuel & Mineral Engg.,
IIT/ISM, Dhanbad, India
Prof. Dr. Biswajit Samanta, Mining Engineering, IIT,
Kharagpur, India
Prof. Dr. B S Sastry, Mining Engineering, IIT
Kharagpur India
Prof. Dr. Edy Tonnizam Mohamad
Geotropik, University Teknologi Malaysia
Dr. Keka Ojha, Petroleum Engg., IIT/ISM, Dhanbad,
India
Dr. Manis Kumar Jha, CSIR-National Metallurgical
Laboratory, Jamshedpur, India
Prof. Michael Tuck, Mining Engineering, Federation
University, Australia
Prof. Dr. Mitchel W. Hitch, Mining Engineering,
Tallinn University of Technology, Estonia
Prof. Dr. Mohan Yellishetty, Resources Engineering,
Monash University, Australia
Niraj Ranjan Sharma, Metals & Mining Industry,
IBM Singapore
Dr. Prabhat Kumar Mandal, CSIR-CIMFR, Dhanbad,
India
Dr. Pramod Paliwal, Fellow-CIM, Professor & Dean
at School of Petroleum Management, Pandit
Deendayal Petroleum University (PDU), India.
Prof. Dr. Ram Bhattacharya, Mining Engg., IIT/ISM,
Dhanbad, India
Dr. R.M. Bhatawdekar, Training & Courses, Geotroik,
Universiti Teklogi, Malasiya
Dr. Robert Hall, HOD, Mining Engineering &
Management, South Dakota School of Mines
Dr. S.B. Srivastav, Geophysics, IIT/ISM, Dhanbad,
India
Sarma Pisupati, Professor of Energy and Mineral
Engineering, Chemical Engineering and Director,
Center for Critical Minerals, State College-DuBois
Area, USA
Prof. Subodh Kumar Maiti, Environmental Science &
Engineering, IIT(ISM), Dhanbad, India
Prof. Supraksh Gupta, Mining Engg., IIT (BHU),
Varanasi, India
Dr. Tanmoy Maity, Power Electronics & Drives, IIT/
ISM, Dhanbad, India
Dr. Vasyi Lozynski, Dnipro University of
Technology, Ukraine
Dr. Victoria R. Nalule, Petroleum Engg., University of
Dundee, UK

69
YEARS IN
PUBLICATION
1953-2021

Vol.69, No.1, JANUARY 2021

THE CONTENTS

<i>Discussion-Opinion-Editorial: Reimagining mined landscape for various new purposes: bringing life back to the derelict sites</i>	2
<i>Industry Directions: Doing away with blasting in underground development: a collaboration with Vale and Komatsu-CMIC</i>	3
<i>The Future: Thermal coal in 2021</i>	4
Surface subsidence monitoring in mining area of SBAS-InSAR based on Sentinel-1A <i>by Zhou Wentao, Zhang Wenjun, Geng Shihua, Deng Yuntao and Liu Xianglong</i>	5
Shale oil and ecology in Australia – the search for balance <i>by Elnur T. Mekhdiiev, Iqbal A. Guliev and Yulia V. Solovova</i>	12
Strengthening of oil exporters' position within OPEC+ in the world oil market <i>by Larisa G. Chuvakhina, Nikolai A. Moldenhauer and Anahita Nasirbeik</i>	17
Planned redesign of beehive coke ovens for pollution control and power generation <i>by Binay Kumar Samanta and Manish Kumar Jain</i>	25

Editorial & Business Offices:
Moon Plaza, 2A, 2nd Floor
62 Lenin Sarani, Taltala
Kolkata 700 013

Mobiles:
+91 9239384829 /
+91 8479919829
+91 9903463829 (Office)
E-mail: bnjournals@gmail.com
pradipchanda@yahoo.co.uk
web: www.jmmf.info

Registered Office:
Books & Journals Pvt. Ltd.
62 Lenin Sarani,
Kolkata 700 013

Enlist as a subscriber to:

**INDIAN JOURNAL OF
POWER & RIVER VALLEY DEVELOPMENT**

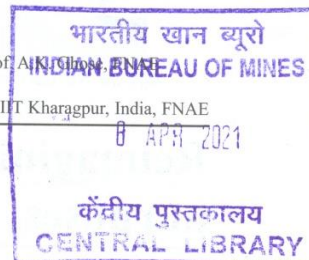
AN INTERNATIONAL JOURNAL OF ENERGY,
POWER AND DEVELOPMENT

Annual Subscription
(Effective January 2020)
Rs.3000 (India); €280.00 or \$400.00 (Foreign)

For advertisement rates

Write to:

The Manager
BOOKS & JOURNALS PRIVATE LTD.
Moon Plaza, (2A, 2nd Floor)
62 Lenin Sarani, Kolkata 700 013
E-mail: bnjournals@gmail.com



JOURNAL OF MINES, METALS & FUELS

THE LONGEST SERVING TECHNICAL JOURNAL OF THE INDUSTRY, RESEARCH, ACADEMIA AND
BUSINESS OF ORES, MINERALS, FUELS, RENEWABLES AND AGGREGATES

(II ISSN 0022-2755)

(FOUNDED BY LATE P.K. MENON)

Managing Editor:
Pradip Kumar Chanda

Immediate Past Editor: Late Prof. A.K. Ghose
Honorary Editor in Chief:
Prof. Dr. Jayanta Bhattacharya, IIT Kharagpur, India, FNAE

International Editorial Advisory Board

Dr. Abdolhadi Ghazvini
Fellow, ISRM, Tehran, Iran
Prof. Dr. Antonio V. Nieto, School of Mining
Engineering, University of Witwatersrand,
South Africa
Prof. Dr. Arif Jamal, Mining Engg., IIT (BHU),
Varanasi, India
Prof. Dr. Ashis Bhattacharjee, Mining Engineering,
IIT, Kharagpur, India
Prof. Barun Kumar Nandi, Fuel & Mineral Engg.,
IIT/ISM, Dhanbad, India
Prof. Dr. Biswajit Samanta, Mining Engineering, IIT,
Kharagpur, India
Prof. Dr. B S Sastry, Mining Engineering, IIT
Kharagpur, India
Prof. Dr. Edy Tonnizam Mohamad
Geotopik, University Teknologi Malaysia
Dr. Keka Ojha, Petroleum Engg., IIT/ISM, Dhanbad,
India
Dr. Manis Kumar Jha, CSIR-National Metallurgical
Laboratory, Jamshedpur, India
Prof. Michael Tuck, Mining Engineering, Federation
University, Australia
Prof. Dr. Mitchell W. Hitch, Mining Engineering,
Tallinn University of Technology, Estonia
Prof. Dr. Mohan Yellishetty, Resources Engineering,
Monash University, Australia
Niraj Ranjan Sharma, Metals & Mining Industry,
IBM Singapore
Dr. Prabhat Kumar Mandal, CSIR-CIMFR, Dhanbad,
India
Dr. Pramod Paliwal, Fellow-CIM, Professor & Dean
at School of Petroleum Management, Pandit
Deendayal Petroleum University (PDPU), India.
Prof. Dr. Ram Bhattacharya, Mining Engg., IIT/ISM,
Dhanbad, India
Dr. R.M. Bhatawdekar, Training & Courses, Geotroik,
Universiti Teknologi, Malasiya
Dr. Robert Hall, HOD, Mining Engineering &
Management, South Dakota School of Mines
Dr. S.B. Srivastav, Geophysics, IIT/ISM, Dhanbad,
India
Sarima Pisupati, Professor of Energy and Mineral
Engineering, Chemical Engineering and Director,
Center for Critical Minerals, State College-DuBois
Area, USA
Prof. Subodh Kumar Maiti, Environmental Science &
Engineering, IIT(ISM), Dhanbad, India
Prof. Supraksh Gupta, Mining Engg., IIT (BHU),
Varanasi, India
Dr. Tanmoy Maity, Power Electronics & Drives, IIT/
ISM, Dhanbad, India
Dr. Vasyl Lozynski, Dnipro University of
Technology, Ukraine
Dr. Victoria R. Nalule, Petroleum Engg., University of
Dundee, UK



Vol.69, No.2, FEBRUARY 2021

THE CONTENTS

- Discussion-Opinion-Editorial:* Why a coal mining company should
start a partnership with a power producing company 33
- Industry Directions:* Adoption of mission critical communications
in mines 34
- Sustainable growth of Indian coal industry: policy perspectives
and recommendations
by Pramod Paliwal, Abhinav Sengupta and Neha Dixit 35
- Design of remnant pillar in mechanized depillaring using
continuous miner
by Shailendra Chawla, Ashok Jaiswal, and B K. Shrivastva 45
- Rheological behaviour of water based mud formulated with
sodium hydroxide (NaOH) plant extracts
by Onyeogulu Chibuike, Ibezim-Ezeani Millicent Uzoamaka
and Akaranta Onyewuchi 53
- A review on underground mine ventilation system
by Omer Haitham Kanam and Maher Obaid Ahmed 62

Editorial & Business Offices:
Moon Plaza, 2A, 2nd Floor
62 Lenin Sarani, Taltala
Kolkata 700 013

Mobiles:
+91 9239384829 /
+91 8479919829
+91 9903463829 (Office)
E-mail: bnjournals@gmail.com
pradipchanda@yahoo.co.uk
web: www.jmmf.info

Registered Office:
Books & Journals Pvt. Ltd.
62 Lenin Sarani,
Kolkata 700 013

Enlist as a subscriber to:

**INDIAN JOURNAL OF
POWER & RIVER VALLEY DEVELOPMENT**

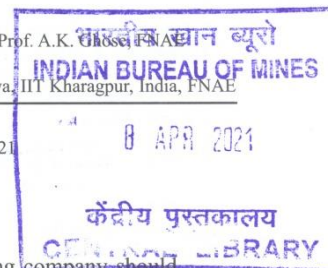
AN INTERNATIONAL JOURNAL OF ENERGY,
POWER AND DEVELOPMENT

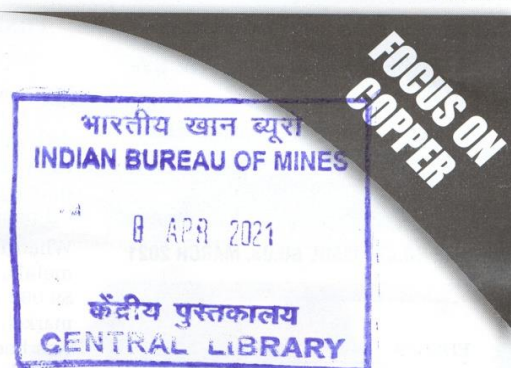
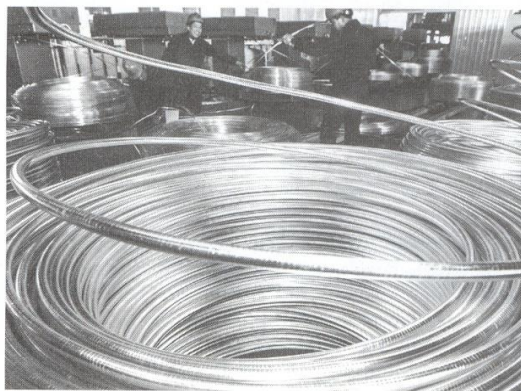
Annual Subscription
(Effective January 2020)
Rs.3000 (India); €280.00 or \$400.00 (Foreign)

For advertisement rates

Write to:

The Manager
BOOKS & JOURNALS PRIVATE LTD.
Moon Plaza, (2A, 2nd Floor)
62 Lenin Sarani, Kolkata 700 013
E-mail: bnjournals@gmail.com





05 Market Reports

16 Copper

Unchain copper, unleash progress

With govt focus on infra, demand for secondary copper to get a boost

Prospects and current trends of copper scrap market & recycling in India

Red metal prices may touch \$12,000

24 Cable & Wire

Scope for growth galore

26 Steel

Huge infrastructure push to drive steel demand in India

28 Aluminium

Champion industry, aluminium, looks for 5% RoDTEP rate to boost exports

31 Lead & Zinc

Review of lead and zinc trends in 2020

33 EV Update

Increasingly electrified - electric mobility is coming faster than many expect

35 Infra Focus

Infrastructure sector is a key driver for the Indian economy

41 Macro Roundup

India's recovery will be led by ferrous & non-ferrous metals, auto and textiles



43 Product Update

ABB intros next-gen cobots to unlock automation for new sectors

44 Events

38th Conference & Exhibition-Virtual ICSOBA 2020

ACMA Summit calls for investment and focus on new-age technology

VDMA "Robotomation – Symposium for Robotic Automation trends in Manufacturing"

54 Statistics



Mining Engineers' Journal

INDIAN BUREAU OF MINES

8 APR 2021

केंद्रीय पुस्तकालय
CENTRAL LIBRARY



Official Publication of
Mining Engineers' Association of India

Vol. 22

No. 9

MONTHLY

April - 2021



President

Sanjay Kumar Pattnaik

Vice President- I
K. Madhusudhana

Vice President - II
S.N. Mathur

Vice President - III
O.P. Gupta

Secretary General
M. Narsaiah

Jt. Secretary cum. Treasurer
B. S. P. Raju

Ex-officio Council Members
Arun Kumar Kothari, T. Victor

Council Members (Elected)

P.K. Satpathy, D.B. Sundar Raman, A.B. Panigrahi, Dr. Abani Ranjan Samal, Prof. Arvind Kumar Mishra, T.N. Gunaseelan, Pankaj Kumar Satija, Prof. B.B. Dhar, Ravindra Kumar Sharma, Dileep Kumar Saxena, Rajendra Singh Rathore, Prof. S.K. Parihar, Prof. Sushil Bhandari, Maheem Kachhawaha, L.S. Shekhawat, R.H. Sawkar, M.S. Raju, P. Srinivasa Rao, Dr. N.K. Nanda, Dr. M.S. Venkataramayya, M. Sathish Kumar, P. Balamadeswaran, M. James, Dr. K. Srihari, Dhananjay Kumar, Rachappa, D.R. Vaze, Manish Kumar Yadav

Representatives of Life Institutional Members
Sagar Cements Ltd. (LIM-21), The K.C.P. Ltd. (LIM-22),
Jubilee Granites India Pvt. Ltd. (LIM-23),
Shri Sharda Cold Retreads (P) Ltd. (LIM-24), ACC Ltd. (LIM-25)

Nominated Members
Sitaram Kemmannu, Sunil Kumar Vashisth, Dr. T.N. Venugopal,
S. Kumaraswamy, A.K. Jaiswal

Co-Opted Members
Deepak Vidyarthi, Chandra Mohan, Prof. Bhabesh.C. Sarkar,
Atul Kumar Bhatnagar, Bidyut Chakraborty

this issue contains...

President's Message	5
Editor's Desk	7
News from the Mining World	9
Green Mining and Geosciences for Sustainable Growth of Mineral Wealth in India - Dr Sudesh Kumar Wadhawan	17
Exploration and Mining on the Moon for Helium-3 (3He) and Rare Earth Elements (REEs) - P. V. Sukumaran	23
MEAI News	29
Conferences, Seminars, Workshops etc.	34

Correspondence Address

MEAI National Headquarters

Contact: **Secretary General,**
Mining Engineers' Association of India
F-608 & 609, Raghavaratna Towers, 'A' Block, VI Floor,
Chirag Ali Lane, Abids, Hyderabad - 500 001.
Ph.: 040-66339625, 23200510

E-mail : meai1957@gmail.com
website : www.meai.org

The Views expressed by the authors in these pages are not necessarily those of Publisher / Editor / MEAI. Reproduction in whole or in part is strictly prohibited without written permission from the publisher.